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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/389,469	09/03/1999	TAKESHI SAITO		5430

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EXAMINER
FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 10/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/389,469	SAITO ET AL.
	Examiner	Art Unit
	Derrick W. Ferris	2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 September 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over "MPEG-4: An Object-based Multimedia Coding Standard supporting Mobile Applications" by Puri et al. ("Puri") in view of "Error Correction and Concealment for Video Communication: A Review" by Wang et al. ("Wang").

As to **claim 1 and claim 14**, Examiner notes protocol encapsulation and multiplexing in general is well known in the art such that "dividing a packet to be transmitted into segments to form a plurality of packet segments" is well known in the art prior to applicant's invention. By way of example, Puri discloses segmenting and encapsulating packets (using a broad but reasonable interpretation of the word "packet") in figure 28 on page 45. For example, the reference shows that an IP Packet can be un-encapsulated into its respective Access Units (i.e., divided into a plurality of packet segments – each packet segment corresponding to an Access Unit) and then re-encapsulated into another (preferably smaller) packet segments (e.g., a FlexMux packet using a simple, single-object PDU shown in figure 29, corresponding to either an ALL2 ATM packet or H.223 packet). With respect to error correction, Puri discloses in section 4.4.7 (page 30) that:

> *"Due to the channel specific nature of the degree and type of error correction needed, MPEG-4 is not likely to recommend a specific error correction method, but leave it up to the chosen data transport layer to implement the needed technique. Further, error concealment strategies although encouraged are not standardized by MPEG-4; perhaps the work done on MPEG-2 can be useful." [page 30]*

As such, the reference provides motivation to use error correction but does not elaborate on how said error correction is to be applied in the system (only that it could be applied to the data transport layer referred to by Puri as the Transport Multiplexing or "TransMux" layer).

Wang presents various error control and concealment schemes. In general, Wang presents two categories for error detection (and correction or concealment): those performed at the transport coder/decoder and those at the video decoder [page 977]. Hence presented by Wang is various schemes for error detection such that in using this reference in combination, a prima facie case of obviousness can be established such that it would have been obvious for a skilled artisan prior to applicant's invention to select one (or more) of the error detection schemes proposed and apply this error correction scheme at the transport layer (i.e., the Transport or Multiplexing or "TransMux" layer as disclosed by Puri).

Both references disclose network communication using video in general. Specifically, in providing a reference for MPEG-4, Puri notes error correction schemes can be applied, such as those disclosed by Wang. Hence examiner notes that it would have been obvious to combine the subject matter as a whole for both references.

As to **claim 2 and claim 15**, noted in the rejection for claim 1 is transmitting a packet such that it would have been obvious to a skilled artisan to do the reverse for receiving a packet prior to applicant's invention. Specifically, Puri discloses transmitting and receiving packets via the Transport Multiplexing layer or "TransMux" layer as disclosed by Puri. Noted in the Puri reference is that error correction schemes can be applied to this layer. Wang provides various types of error correction schemes that can be applied to this layer. Furthermore, examiner notes that it would have been further obvious to apply at least one error correction scheme (i.e., select an error correction scheme) at the decoder (i.e. the receiving side). For example, Wang notes that

> *"Another method for error detection at the transport level is to use FEC. In this method, error-correction encoding is applied to segments [i.e., the application units as referred to by Puri] of the output bit stream of the encoder. At the decoder, error-correction decoding is employed to detect and possible correct some bit errors." [page 977]*

In other words, examiner notes that when receiving a packet segment, should a certain type of error correction have been applied to said received packet segment, then based on the predetermined structure of the packet, the information of the packet can then be applied along with the error correction method to see if any errors exist.

As to **claims 5 and 6**, in addition to the reasoning presented in the rejections for claims 1 and 2 respectively, Wang goes on to further illustrate (in reference to the FEC example mentioned previously in the rejection for claim 2) that H.223 uses FEC for both the multiplex packet header and the payload to detect errors in the header and the payload, respectively (i.e., using an error correction scheme based on information in a

field, in this case an 18-bit FEC code of 493 bits for error detection and correction) [Wang, page 977].

As to **claims 3, 4, 7 and 8**, noted by Puri is support for the H.245 protocol in that the H.245 protocol is used as a control protocol for capability negotiation [Puri page 4]. Noted specifically is that this protocol can be used with H.223 packets for error correction [Puri page 6]. Thus examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to use the H.245 protocol to negotiate the error correction scheme prior to sending the packets as is known by a skilled artisan.

As to **claims 9-13**, noted in Wang is providing error correction for the header, payload and/or both [page 977]. As such, examiner notes that it would have been obvious to use a selection scheme that encompassed a header, payload or both as is well known in the art. Such headers could also include a port number as well for a particular application.

Conclusion

Examiner's germane comment(s):

In general, it is noted applicant's claimed subject matter, in reference to independent claims 1, 2, and 14, broadly recites selecting and using a predetermined error correction scheme for a protocol gateway ("communication node"), wherein the protocol gateway divides a packet ("[original] packet") into smaller packets ("packet segments") wherein an error correction scheme, selected from a plurality of error correction schemes, is applied to each of the smaller packets or packet segments. (Not claimed is how this error correction scheme is applied to the

smaller packets or packet segments.) *Examiner notes the term "packet", as used in the art, is broad. For example, a broad but reasonable interpretation of the term packet can refer to a data-link packet (e.g., a point-to-point protocol (PPP) packet, H.223 packet, or ATM packet); a network packet (e.g., an Internet Protocol (IP) packet); a transport layer packet (e.g., real-time protocol (RTP) packet); and even an application packet (e.g., an Application Unit packet (in reference to Puri et al. page 45, figure 28). Hence a broad but reasonable interpretation of the term packet (and packet segments) can be applied to the claim(s).*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US005852631A – in regards to **claims 3, 4, 7 and 8**, Scott discloses a method or negotiation prior to sending packets as shown in figure 8 (with reference to connect sequence without present invention 102). In addition background is also presented including describing V.42 with respect to error-correction [column 2, lines 39-54].
- "Error-Resilient Video Coding in ISO MPEG-4 Standard" by Talluri et al discloses four types of error-correction coding for video packets [page 114]. Emphasis is also placed on Header Extension Codes (HEC) for recovering important header information [page 117].
- US005844918A – in regards to **claims 1 and 14**, Kato shows division of packets into packet segments for error correction shown in Figure 5

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Derrick W. Ferris
Examiner
Art Unit 2663

DWF
October 4, 2002

MELVIN MARCELO
PRIMARY EXAMINER

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson. **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in ABANDONMENT of the application